AMSAT News Service Weekly Bulletins
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AMSAT NEWS SERVICE
ANS-140

ANS is a free, weekly, news and information service of AMSAT North America, The Radio Amateur Satellite Corporation. ANS reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

Please send any amateur satellite news or reports to:
ans-editor@amsat.org

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SB SAT @ AMSAT $ANS-140.01
2007 AMSAT Space Symposium and Annual Meeting - Call for Papers

AMSAT News Service Bulletin 140.01
>From AMSAT HQ SILVER SPRING, MD.
May 20, 2007
To All RADIO AMATEURS
BID: $ANS-140.01

This is the first call for papers for the 2007 AMSAT Space Symposium and Annual Meeting to be held October 25-28, 2007 in Pittsburgh, Pennsylvania.

Proposals for papers, symposium presentations, and poster presentations are invited on any topic of interest to the amateur satellite program. An emphasis for this year is an educational outreach to middle and high School students. In particular, papers on the following topics are solicited:

 + Students & Education
 + ARISS
 + AO-51
 + P3E
 + Eagle
 + Other satellite-related topics.

We request a one-page abstract by June 1, 2007. Camera ready copy on paper or in electronic form will be due by September 1, 2007 for inclusion in the printed symposium proceedings.

Abstracts and papers should be sent to:
Daniel Schultz N8FGV by e-mail to: n8fgv@amsat.org.

[ANS thanks the AMSAT 2007 Symposium Committee for the above information]

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SB SAT @ AMSAT $ANS-140.02
AMSAT at Dayton - Report From the Show

AMSAT News Service Bulletin 140.02
>From AMSAT HQ SILVER SPRING, MD.
May 20, 2007
To All RADIO AMATEURS
BID: $ANS-140.02

As this bulletin is being released AMSAT members are enjoying a fun filled weekend at the 2007 Dayton Hamvention. AMSAT is having a successful weekend showing the amateur radio community our special aspect of communications while at the same time demonstrating how satellite techniques are within the reach of interested operators.

Taking up 5 Hamvention booth spaces AMSAT was able to demonstrate a half scale model of the Eagle satellite, the Eagle 70cm receiver, a full scale model of the Echo satellite, prototype ARISS antennas for the ISS, prototype SuitSat-2 antennas and helmet control box, and live tracking software interfaced with a working LVB tracker connected between a computer using a serial or USB connector and the Yaesu 5400/5500 rotor controller box driving an az-el rotor system.

AMSAT's latest publications and this year's AMSAT Dayton fashions were also available. These can be ordered via the AMSAT store on our web page after the Hamvention. All of this was brought out through the efforts of a team of approximately 25 volunteers. Thanks a million guys and gals!

After the booth was setup on Thursday afternoon prior to the offical opening of the Hamvention on Friday, the team enjoyed the annual AMSAT Pizza 'n Suds party at Marion's Piazza. This was a well attended party with about 50 satellite afficionados in attendance.

Keigh Pugh, W5IU coordinated the AMSAT satellite demonstrations. His team was able to run 6 demonstations on Friday, 7 on Saturday, and at press time an additional 5 demonstrations were planned for Sunday morning. SO-50, AO-7, AO-51, AO-27, and VO-52 were used for QSOs. Numerous comments were received at the booth about how well the demonstrations were presented, how remarkably well the signals were received, and how the individual now better understood satellite operating having seen it in person.

The AMSAT booth enjoyed a visit from Bill McArthur, KC5ACR, ISS Expediton 12 Commander who was at the Hamvention in support of planned ARRL activities.

The AMSAT Forum on Friday featured outstanding list of speakers and topics of interest to all AMSAT members. The forum drew over 100 interested radio amateurs. Barry Baines, WD4ASW, AMSAT-NA Corporate Secretary moderated the session.

The first speaker was Rick Hambly, W2GPS, President, AMSAT-NA who presented the "Summary of AMSAT-NA Activities in 2007". Rick re-minded everyone in attendance of AMSAT's vision of HEO Satellites are our primary mission. AMSAT will assist LEO efforts undertaken by the educational community and other amateur radio groups.

Rick continued with a list of achievements for 2006 including the following:

+ AO-51 has now passed 2 years of continous operation. Software upgrades and testing are now in progress to further improve this satellite and the operator's experience.

+ SuitSat-1 captured the world's attention and helped promote amateur radio.

+ SuitSat-2 development is currently underway and will feature an SDR transponder.

+ AMSAT-NA support for AMSAT-DL's P3E provides funding, and staffing for design, testing, and integration.

+ Eagle satellite development is on-going concurrently with P3E and the satellites will both share common modules and software.

+ AMSAT's education outreach provides mentoring to student's who are designing, building, and launching satellites.

+ The AMSAT Lab in Maryland was opened. The clean room equipment is currently being installed.

Bob McGwier, N4HY, AMSAT VP-Engineering, spoke on behalf of Peter Guelzow, DB2OS, to describe progress for AMSAT-DL's Phase 3-Express (P3E) satellite. P3E will provide a critical test bed for proof of concept of critical systems needed for the planned P5A mission to Mars. P3E is being built in an AO-13 spaceframe but will feature new electronics and software. It will also include the same Software Defined Transponder planned for AMSAT Eagle. Launch opportunities are currently being explored.

Bob then continued with an Eagle Status Update. His slides showed how the Software Defined Transponder will be integrated in Eagle. He discussed the exceptional increase in radio performance that the SDX technology will bring. Details were also discussed about the HELAPS power amplifier, phased array antennas, and the breakthough with getting the first 70 cm receiver debugged and working and currently starting performance testing. Bob described the features of the Advanced Communication Package. More details of Eagle will be provided in future issues of the AMSAT Journal.

Next was Gould Smith, WA4SXM, AO-51 Command Station, who spoke about "AMSAT-NA Satellite Operations and AO-51 Update." Gould descibed the work of the AO-51 Operations Group who are currently writing and testing new software to be uploaded into AO-51. He also gave everyone an overview of an AO-51 command station.

Frank Bauer, KA3HDO, AMSAT-NA Director-Human Space Flight, gave an impressive presentation of "ARISS and Future SuitSat Missions." Frank was able to include mission audio clips, SuitSat audio clips, and NASA video of SuitSat.

According to records, ARISS school contacts from the International Space Station have reached over 15,000 students. Also, every ISS crew between Expedition 14 now on orbit through Expedition 19 in 2009 will have a licensed amateur radio operator aboard.

SuitSat-2 is currently under development. Work continues as the team awaits official approval by the various space agencies for a planned deployment in February, 2008. The SuitSat-2 project includes these features:

+ Expanded education outreach with prepared lesson plans.

+ Software Defined Transponder capable of supporting SSB, CW, FM voice, SSTV, and CW IDer. An uplink passband at approximately 145.9 MHz and downlink passband at approximately 437.6 MHz is being proposed.

+ SSTV support for up to 4 cameras.

+ Solar panels in addition to battery power to support the radio payload plus additional sensors, and 4 experimental packages.

Lou McFadin, W5DID demonstrated a prototype SuitSat-2 helmet mounted antenna for 2M and 70cm. He also showed the proven safety interlock control box used by the astronauts to activate SuitSat.

Howard Long, G6LVB continued the ARISS discussion by showing the new amateur radio equipment which will be included in ESA's Columbus Laboratory module to be attached to the ISS in early 2008. This will feature a linear transponder with L-band uplink and S-band downlink.

The "Under the Wings" Banquet held in the Air Force Museum was considered a major success. In addition to the meal on Friday evening over 300 participants were able to also enjoy touring the museum displays. We received many enthusiastic compliments at the booth the next day for this joint AMSAT/TAPR event.

Watch for more details, including photos coming in the next AMSAT Journal!

[ANS thanks everyone for the above information/

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SB SAT @ AMSAT $ANS-140.03
AMSAT Journal Articles Due For Next Issue

AMSAT News Service Bulletin 140.03
>From AMSAT HQ SILVER SPRING, MD.
May 20, 2007
To All RADIO AMATEURS
BID: $ANS-140.03

Ed Long, WA4SWJ, Editor, The AMSAT Journal says, "It's time to submit your Journal articles for the May/June issue. I have a couple of articles already but, as always, need more. Please let me know if you have something to submit. I'll also be looking for the last minute article or two on the Hamvention. Those are needed very quickly after the event is over to keep everything on schedule."

[ANS thanks Ed, WA4SWJ for the above information]

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SB SAT @ AMSAT $ANS-140.04
OSCAR-11 Report 16 May 2007

AMSAT News Service Bulletin 140.04
>From AMSAT HQ SILVER SPRING, MD.

May 20, 2007
To All RADIO AMATEURS
BID: $ANS-140.04

Clive, G3CWV writes, "OSCAR 11 RECEPTION REPORTS REQUESTED!"

OSCAR-11 might switch ON around 18/19 May and possibly 8/9 June. However, due to solar eclipses the satellite is likely to switch OFF, almost immediately, probably after less that one orbit. This brief period of activity could occur when the satellite is over any part of the world.

Any reception reports would be grately appreciated. Please send to the address below or post to amsat-bb.

Recently the satellite's 145.826 MHz beacon was heard from 22 to 28 April. The beacon switched ON as expected. This short period was of special interest since the solar eclipses started on 21 April and steadily increased each day, reaching a duration of 12.6 minutes when the beacon switched OFF. Thus it was an rare oportunity to study the effect of solar eclipses on the satellite.

Good signals were heard on most passes, although they became weaker towards the end of the ON period. Good copy of the telemetry was obtained.

Peter, ZL3TC reported hearing the satellite switch ON, after coming out of eclipse at 08:14 on 28 April. These observations suggest that the satellite's electronics may be suffering from low power supplies, before the watchgog timer cycle finally resets.

Clive summarized, "I am indebted to Ian ZL1AOX, Peter ZL3TC, David G8OQW, Jeff KB2M, Edward BX1AD, Sil ZL2CIA, Dave G1OCN, John K8YSE and Grant VK4JAZ for their reports. Many thanks!"

The Beacon frequency is VHF 145.826 MHz with AFSK FM ASCII Telemetry

Listeners to OSCAR-11 may be interested in visiting Clive's website. If you need to know what OSCAR-11 should sound like, there is a short audio clip for you to hear. The website contains an archive of news & telemetry data. It also contains details about using a soundcard or hardware demodulators for data capture. There is software for capturing data, and decoding ASCII telemetry. The URL is:
http://www.users.zetnet.co.uk/clivew/

73 Clive G3CWV xxxxx@amsat.org (please replace xxxxx by g3cwv)

[ANS thanks Clive, G3CWV for the above information]

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SB SAT @ AMSAT $ANS-140.05
Satellite Shorts From All Over

AMSAT News Service Bulletin 140.05
>From AMSAT HQ SILVER SPRING, MD.
May 20, 2007
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+ A message received from the GO-32/Techsat Ground Control Station said, "The debugging session for GO-32 is not over yet. We think

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  we will need 2 more weeks. During this time, BBS's services will
  be suspended from time to time. Further more, in some cases the
  BBS content will be lost without warning.  We apologize for the
  inconvenience to all GO-32 BBS's users. We hope to return the
  satellite to full operation soon."

+ Microwave Update 2007 is planned for October 18-19-20 in Historic
  Valley Forge near Philadelphia, Pennsylvania.  This event will be
  hosted by the Pack Rats--Mt Airy VHF Radio Club. Full info and
  registration at http://www.microwaveupdate.org.

[ANS thanks everyone for the above information]

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SB SAT @ AMSAT $ANS-140.06
ARISS Status Report for the Week of May 14, 2007

AMSAT News Service Bulletin 140.06
>From AMSAT HQ SILVER SPRING, MD.
May 20, 2007
To All RADIO AMATEURS
BID: $ANS-140.06

1. Successful School Contacts

On Wednesday, May 9, students attending Sunset Mesa Schools in
Albuquerque, New Mexico participated in an ARISS contact. Nine
students were able to ask one question each of astronaut Sunita
Williams, KD5PLB.  The Sandoval County Amateur Radio Emergency
Service (SCARES) assisted with the contact and gave a presentation
on ham radio to the 400 students. Two local television stations
covered the event. KOB, News Channel 4 ran an article on the contact.
See: http://kob.com/article/stories/S81164.shtml?catQ5

Escola Secundï¿½ria de Estarreja in Portugal experienced an ARISS
contact on Wednesday, May 9. Sunita Williams, KD5PLB, answered 11
questions put to her by seven students, all licensed ham operators,
as approximately 200 students looked on.  The contact was covered
by nationwide and local television stations, a newspaper and a
radio station.

An ARISS contact was completed with Barrhaven Public School in Ottawa,
Ontario on Tuesday, May 15. The school is forming a space club which
is open to first through fifth graders. Through this club, students
will learn about the Space Station via the internet and guest speakers.
They will track the ISS and plot its course. They will learn how to
speak on the radio and work on related art projects such as posters,
banners and murals.  A contest will be held to create a mission patch
which will be used on T shirts for the children. The media will be
notified of the event. The audio for this event will be fed into the
EchoLink AMSAT (101 377) and JK1ZRW (277 208) servers.

Kenneth J. Carberry Intermediate School, a 2004 NASA Explorer School,
located in Emmett, Idaho completed an ARISS contact on Wednesday, May
16.
Students will research and create a Space Program timeline. They will
research ISS astronauts and the countries involved with the Space
Station, and determine the research being carried out onboard. They
will also design posters to announce the upcoming event.

2. Upcoming School Contacts
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Toyon Elementary School in San Jose, California, a 2004 NASA Explorer School, has been slated for an ARISS contact on Monday, May 21. Students will determine what experiments are being conducted on the ISS. They will research the astronauts and their backgrounds and write compositions based on their findings. A contest will be held to select questions which will be asked of the astronaut. A poster contest will be held and the posters will be displayed around town. Students and their families will be invited to the schooli¿½s Family Science Event which will feature guest speakers and hands on activities.

3. Crew Debrief Scheduled

The ARISS-U.S. team has been scheduled for a crew debrief with Michael Lopez-Alegria, KE5GTK. The Expedition 14 debrief is planned for Thursday, June 7.

[ANS thanks Carol, KB3LKI for the above information]

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In addition to regular membership, AMSAT offers membership in the President's Club. Members of the President's Club, as sustaining donors to AMSAT Project Funds, will be eligible to receive additional benefits. Application forms are available from the AMSAT Office.

73,
This week's ANS Editor,
JoAnne Maenpaa, K9JKM